Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (currently amended) A statistical multiplex transmission system for use in a network which includes a first local area asynchronous transfer mode (ATM) network including a plurality of first terminal devices, a second local area ATM network including a plurality of second terminal devices, and a public ATM network connected to said first and second ATM networks, comprising:

a first multiplex gateway device for connecting said first local area ATM network and said public ATM network;

a second multiplex gateway device for connecting said second local area ATM network and said public ATM network,

wherein said first and second multiplex gateway devices <u>are configured to:</u>

receive ATM transmission signals from said first and second local area ATM networks, respectively, [[and]]

perform a statistical multiplexing process [[of]] <u>to determine statistical information based on a mean rate and a peak cell rate associated with</u> said ATM transmission signals [[to]] <u>and</u> generate transmission statistical multiplex signals <u>based on the statistical information</u>, and

~~transmitting~~ <u>transmit</u> said transmission statistical multiplex signals to said public ATM network.

2.   (currently amended) [[A]] The statistical multiplex transmission system as claimed in claim 1, wherein said first and second multiplex gateway devices are configured to transmit said transmission statistical multiplex signals by a piece-wise constant bit rate transmission system including a transmission rate after statistical multiplexing process which varies in a predetermined time interval after the statistical multiplexing process.

3.   (currently amended) [[A]] The statistical multiplex transmission system as claimed in claim [[2]] 1, wherein said first and second multiplex gateway devices are configured to:

receive said transmission statistical multiplex signals,

[[to]] separate said transmission statistical multiplex signals, and

generate a plurality of receiving ATM signals, and

wherein said first and second multiplex gateway devices are configured to transmit said receiving ATM signals to said first and second terminal devices through said first and second local area ATM networks, respectively.

4.   (currently amended) [[A]] The statistical multiplex transmission system as claimed in claim 3, wherein said first and second multiplex gateway devices comprise:

first means for calculating the statistical information represented by a mean rate and a peak cell rate of ATM cells in said ATM transmission signals; and

second means for performing a multiplexing processing of process on said ATM cells according to said statistical information, and for transmitting said transmission statistical

multiplex signals to said public ATM network.

5.   (currently amended) [[A]] The statistical multiplex transmission system as claimed in claim 4, wherein said second means includes:

third means for conducting rate addition after ~~statistical~~ the multiplexing process according to said statistical information and for determining [[said]] a rate addition result;

fourth means for calculating a required piece-wise constant bit rate on the basis of said rate addition result, and for performing cell multiplex control on the basis of said piece-wise constant bit rate; and

fifth means for transmitting said transmission statistical multiplex signal according to said cell multiplex control.

6.   (currently amended) [[A]] The statistical multiplex transmission system as claimed in claim 5, wherein said fifth means receives said transmission statistical multiplex signal to separate said transmission statistical multiplex signal, and

generates a receiving ATM signal.

7.   (currently amended) The system of claim 1, further comprising:

a control unit operably connected to said first multiplex gateway device,

wherein the control unit re-negotiates a transmission rate of said transmission statistical multiplex signals after said statistical multiplexing process, in a predetermined time interval, through adaptive control of parameters acquired from the ATM transmission ~~statistical multiplex~~

signals.

8.   (previously presented) The system of claim 1, wherein the plurality of first and second terminal devices are International Telecommunications Union (ITU) recommendation H.310 compliant.

9.   (currently amended) The system of claim 1, further comprising:

a statistical multiplexing control unit, operably connected to one of the first [[and]] or second multiplex gateway ~~devices~~ device, for performing a rate addition after said statistical multiplexing process according to statistical information from said ~~multiplex~~ ATM transmission signals.

10.   (currently amended) The system of claim 9, further comprising:

a piece-wise constant bit rate control unit, operably connected to the statistical multiplexing control unit, for receiving the rate addition calculation from said statistical multiplexing control unit, and

calculating a piece-wise constant bit rate for transmission of said transmission statistical multiplex signals to said public ATM network.

11.   (currently amended) The system of claim 9, further comprising:

an ATM transmission line unit, operably connected to the statistical multiplexing control unit, for calculating the statistical information [[of]] from ATM cells in said ATM transmission signals, and

transmitting the statistical information and the ATM cells to an ATM cell

multiplexing/demultiplexing unit.

12.   (currently amended) The system of claim 11, wherein the ATM cell

multiplexing/demultiplexing unit is operably connected to one of the first [[and]] or second

multiplex gateway ~~devices~~ device, and performs cell multiplexing control on the basis of the

piece-wise constant bit rate, and

wherein the ATM cell multiplexing/demultiplexing unit transmits the transmission

statistical multiplex signals to the statistical multiplexing control unit.

13.   (currently amended) A statistical multiplex transmission system for use in a

network <u>that includes a first local area Asynchronous Transfer Mode (ATM) network including a</u>

<u>plurality of first terminal devices, a second local area ATM network including a plurality of</u>

<u>second terminal devices, and a public ATM network connected to said first and second ATM</u>

<u>networks,</u> <u>the system</u> comprising:

~~a first local area Asynchronous Transfer Mode (ATM) network including a plurality of~~

~~first terminal devices;~~

~~a second local area ATM network including a plurality of second terminal devices;~~

~~a public ATM network connected to said first and second ATM networks;~~

a first multiplex gateway device for connecting said first local area ATM network and

said public ATM network;

a second multiplex gateway device for connecting said second local area ATM network

and said public ATM network,

wherein said first and second multiplex gateway devices <u>are configured to:</u>

receive ATM transmission signals from said first and second local area ATM

networks, respectively, [[and]]

perform a statistical multiplexing process [[of]] <u>to determine statistical</u>

<u>information based on at least one of a mean rate or a peak cell rate associated with</u> said

ATM transmission signals [[to]] <u>and</u> generate statistical multiplex transmission signals

<u>based on the statistical information,</u> and

~~transmitting~~ <u>transmit</u> said statistical multiplex transmission signals to said public

ATM network~~, and~~

~~wherein said first and second multiplex gateway devices transmit said statistical~~

~~multiplex transmission signals by~~ <u>based on</u> a piece-wise constant bit rate ~~transmission system~~

~~including transmission rate after statistical multiplexing process which~~ <u>that</u> varies in a

predetermined time interval.

14.   (currently amended) The system of claim 13, further comprising:

a control unit, operably connected to said first multiplex gateway device,

wherein the control unit re-negotiates a transmission rate of said ~~transmission~~ statistical

multiplex <u>transmission</u> signals after said statistical multiplexing process, in a predetermined time

interval, through adaptive control of parameters acquired from the <u>ATM</u> transmission signals.

15.   (previously presented) The system of claim 13, wherein the plurality of first and

second terminal devices are International Telecommunications Union (ITU) recommendation H.310 compliant.

16.   (currently amended) The system of claim 13, further comprising:

a statistical multiplexing control unit, operably connected to the first or second multiplex gateway device, for performing a rate addition after said statistical multiplexing process according to statistical information from said ~~multiplex~~ ATM transmission signals.

17.   (currently amended) The system of claim 16, further comprising:

a piece-wise constant bit rate control unit, operably connected to the statistical multiplexing control unit, for receiving a result of the rate addition ~~calculation~~ from said statistical multiplexing control unit and calculating a piece-wise constant bit rate for transmission of said statistical multiplex transmission signals to said public ATM network based on the result of the rate addition.

18.   (currently amended) The system of claim [[17]] 16, further comprising:

an ATM transmission line unit, operably connected to the statistical multiplexing control unit, for calculating statistical information of ATM cells in said ATM transmission signals, and transmitting the statistical information and the ATM cells to an ATM cell multiplexing/demultiplexing unit.

19.   (currently amended) The system of claim 18, wherein the ATM cell

multiplexing/demultiplexing unit is operably connected to one of said first [[and]] or second

multiplex gateway devices device, and performs cell multiplexing control on the basis of the

piece-wise constant bit rate, and

wherein the ATM cell multiplexing/demultiplexing unit transmits the transmission

statistical multiplex transmission signals to the statistical multiplexing control unit.

20.   (currently amended) A method for statistical multiplex data transmission in an

asynchronous transfer mode (ATM) network including a first local area ATM network connected

to a plurality of first terminal devices, a second local area ATM network connected to a plurality

of second terminal devices, and a public ATM network connected to said first and second ATM

networks, the method comprising:

connecting a first local area ATM network to a plurality of first terminal devices;

connecting a second local area ATM network to a plurality of second terminal devices;

connecting a public ATM network to said first and second ATM networks;

connecting a first multiplex gateway device to said first local area ATM network and said

public ATM network;

connecting a second multiplex gateway device to said second local area ATM network

and said public ATM network;

receiving ATM transmission signals from said first and second local area ATM networks

into said first and second multiplex gateway devices, respectively; [[and]]

performing a statistical multiplexing process [[of]] to determine statistical information

based on at least one of a mean rate or a peak cell rate associated with said ATM transmission

signals [[to]] and generate transmission statistical multiplex signals based on the statistical

information; [[,]] and

transmitting said transmission statistical multiplex signals to said public ATM

network[[,]]

~~wherein said first and second multiplex gateway devices transmit said transmission~~

~~statistical multiplex signals by use of~~ based on a piece-wise constant bit rate ~~transmission system~~

~~with a transmission rate~~ that varies in a predetermined time interval after the statistical

multiplexing process.

21.   (currently amended) The method of claim 20, further comprising:

performing a rate addition after said statistical multiplexing process according to

statistical information from said ~~multiplex~~ ATM transmission signals.

22.   (currently amended) The method of claim [[20]] 21, further comprising:

receiving a result of the rate addition; ~~calculation from said statistical multiplexing~~

~~control unit~~ and

calculating a piece-wise constant bit rate for transmission of said transmission statistical

multiplex signals to said public ATM network based on the result of the rate addition.

23.   (currently amended) The ~~system~~ method of claim 22, further comprising:

calculating statistical information of ATM cells in said ATM transmission signals, and

transmitting the statistical information and the ATM cells to an ATM cell

multiplexing/demultiplexing unit.

24.   (currently amended) The ~~system~~ <u>method</u> of claim 23, further comprising:

performing cell multiplexing control on the basis of the piece-wise constant bit rate.